CLAIMS:

1. A traffic management system for a packet switch comprising:-

a cross-bar;

a plurality of ingress means connected to an input side of the cross-bar;

a plurality of egress means connected to an output side of the cross-bar;

a bandwidth controller for allocating a bandwidth to each ingress-egress pairing; and

a cross-bar controller for controlling operation of the cross-bar in accordance with the bandwidth allocated by the bandwidth controller.

2. A system according to claim 1, wherein the cross-bar controller also selects the next ingress-egress pairing for each ingress means.

3. A method of controlling a packet switch connected between a plurality of ingress means and a plurality of egress means, each ingress means having a packet queue for transmission, the method comprising the steps of:-

a) defining a period over which the packet queues are to be transmitted;

b) calculating a rate matrix having elements corresponding to the rates from an ingress means to an egress means;

c) at the beginning of each period, calculating a cell matrix containing a number of cells which must be transmitted from each of the packet queues during the period;

d) for each cell slot in the period, determining a configuration which matches the cell matrix by only servicing packet queues with non-zero cell counts, the configuration being determined in accordance with the following constraints:-

(i) selecting no more than one cell from each ingress means; and

(ii) routing no more than one cell to each egress means;

e) decrementing the cell counts of each queue serviced by one; and

f) repeating steps c), d) and e) until the end of the period.

4. A traffic management system substantially as hereinbefore described with reference to Figure 2 of the accompanying drawings.

5. A method of controlling a packet switch substantially as hereinbefore described with reference to Figures 2 to 5 of the accompanying drawings.